50G1501

Professional GIS Services for Marshall County, Indiana

AFFIDAVIT OF EQUAL OPPORTUNITY

As a condition of continuing a contractual or business relationship with **Marshall County, Indiana,** it is hereby certified that this contractor or contracting organization agrees to provide equal employment opportunity to all employees and applicants, and will not discriminate against any employee or applicant for employment because of race, color, religion, sex (except where sex is a bona fide occupational qualification), or national origin. This shall include handicapped persons, disabled veterans, Viet Nam veterans and persons of any political affiliation. Such action shall include but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rate of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination policy.

In signing this affidavit, the bidder or contractor further certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments; and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained.

The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of this Equal Opportunity Affidavit. As used in his certification, the term "segregated facilities" means any waiting room, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, sex (except where sex is a bona fide basis for segregated facilities), or national origin, including handicapped persons, disabled veterans, Viet Nam veterans and persons of any political affiliation, because of habit, local custom or otherwise.

On behalf of this organization, I hereby certify that compliance with the above equal opportunity policy is now and will continue to be maintained.

THE SIDWELL COMPANY

NEAL CARPENTER
PRESIDENT AND CHIEF EXECUTIVE OFFICER

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Professional GIS Services for Marshall County, Indiana

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Contract Agreement

THIS AGREEMENT entered into this _____ day of _____, 2005 between THE SIDWELL COMPANY, St. Charles, Illinois, hereinafter called "Sidwell," party of the first part, and MARSHALL COUNTY, INDIANA, a government entity, hereinafter called "the County," party of the second part, WITNESSETH:

THAT WHEREAS, The Sidwell Company is in the business of providing Geographic Information Systems, Aerial Photography, Cadastral Mapping, and Web Site Provision Services for various governmental agencies in the United States; and

WHEREAS, the County is desirous of having The Sidwell Company provide Geographic Information Systems and Web Site Provision Services.

NOW, THEREFORE, in consideration of the mutual agreements hereinafter made, the recitals of fact hereinabove set forth, and other good and valuable consideration, the receipt of which is hereby acknowledged, the parties agree as follows;

The Sidwell Company will perform the services described in the scope of work that follows.

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Copy: Mr. Marsha
Copy: J. Clevenger

Professional GIS Services for Marshall County, Indiana

Geodatabase Conversion

ESRI Geodatabase Format

The Geodatabase format was first introduced with the ArcGIS 8.0 suite of products in Autumn 2000. A Geodatabase is a storage format and a container for all GIS project data. Map graphics and tabular data are both stored together as tables in the same database. The Geodatabase utilizes commercially available database products. The Geodatabase comes in two flavors: personal and enterprise. The personal Geodatabase uses a Microsoft Access Database, is suitable for a county with a parcel count of less than 35,000 parcels, and supports single-user editing. The enterprise Geodatabase utilizes a database product such as Microsoft SQL or Oracle and ArcSDE software from ESRI. It enhances data management and security, supports multiple, concurrent editing sessions, provides versioning of the database, and is suitable for counties with a parcel count of greater than 35,000 parcels.

The Geodatabase supports an object-oriented vector data model where entities are represented as objects with various tables containing properties, behavior, and relationships. Support for a variety of different geographic object types is built into the system. Geodatabase feature classes each contain one geometric feature type such as points, lines, polygons, or annotation features. Related feature classes can be organized into feature datasets. Feature datasets are useful for organizing feature classes thematically or with a shared topology.

Since the time when ArcGIS 8.0 was first introduced, the Geodatabase format and software products have matured and have been adopted by many counties throughout the Midwest. With the introduction of Parcel Editor in September 2002, new GIS parcel maintenance products became available.

Software Versions

When ArcGIS version 9.0 entered the marketplace, Sidwell developed and released updated parcel maintenance tools in September 2004; our Parcel Builder™ suite. Sidwell's Parcel Builder™ incorporates 30 additional maintenance tools. Parcel Builder™ includes Parcel Builder - MapEditor™ for parcel map maintenance, Parcel Builder - Administrator™ for parcel number maintenance and live integration with CAMA software packages, and Parcel Builder - MapPlotter™ for creating and plotting high quality cadastral maps.

Technical Services

Convert ESRI coverages & shapefiles into a tagged data model geodatabase

Sidwell will begin the geodatabase conversion process by consulting with Marshall County on the design of the data model. Sidwell will work from documents that can be found in the Appendix of this proposal, namely the "Sidwell Standard Geodatabase Data Model and Dictionary" and the "Sidwell Tagged Data Model Geodatabase Design Reference." Sidwell will present the geodatabase data model to the County and respond to any requested changes.

Sidwell proposes to convert the County's GIS to the tagged data model geodatabase. The tagged data model is designed to let each line in the geodatabase carry multiple definitions. In the real world, a single line can represent the boundary of several different entities. It is common for a subdivision boundary, a parcel line, and road right-of-way to be coincident. A line is drawn once in the geodatabase and attributed or multiple featured tagged with one

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or more features. The tagged data model is compact and easy to use for GIS cadastral map maintenance. It supports the ability to perform most cadastral editing within one linear feature class because you do not have to edit each feature class individually which could potentially introduce matching errors. It insures that elements of different feature classes match each other because other feature classes can be built using the same set of lines.

Presently, Marshall County's GIS parcel data exists in an older ESRI format, the coverage format. Parcel data resides in 476 coverage files, one section of land per file. Additional data such as corporate boundaries, watersheds, subdivision boundaries, easements, etc. exist in coverage or shapefile format. All cadastral GIS data that currently resides in coverage or shapefile format will be converted into the geodatabase format. Ancillary GIS coverage and shapefile data will also be converted into the geodatabase. Cadastral linework, such as parcel lines and subdivision boundaries, currently exist in separate files. Cadastral elements that are nearly coincident will be conflated under program control to bring these elements together into the tagged data model where a single line can represent several different entities. Sidwell will manually conflate cadastral elements into the tagged data model and clean up seam lines between the old coverage files. As individual files are pulled together, there may be duplicate boundaries and overlapping annotation along these seam lines. Sidwell will work to eliminate duplication of data and eliminate duplicate symbology where appropriate to ensure clean cartographic representation of the map where files have been combined. The magnitude of the edge matching cleanup can not be accurately defined until the coverage tiles are combined into the geodatabase. We are dedicating 40 hours of labor to this effort, which we believe will be adequate to complete the task. If additional effort is required, the county will be informed before we proceed. The GIS will consist of one countywide geodatabase.

Import parcel inventory

The parcel number inventory will be imported into Sidwell's Parcel Builder Administrator to link with the GIS and for parcel number maintenance and integration with Marshall County's CAMA system, the ProVal system. ProVal is a product from Manatron. Sidwell and Manatron are business partners; both company's software development programmers have worked cooperatively to develop live, front-end integration between the geodatabase and ProVal. For example, if a parcel is "born" on the map in the GIS, the newly assigned parcel number is sent to ProVal. When the Assessor's office has completed filling out the ProVal record, a message is sent back to the GIS that the parcel is live in the system. Sidwell proposes to provide our integration "plugin" for ProVal. On site, we will configure the GIS/ProVal integration and perform testing.

Grid Indexes for Map Plotting

Plotting Setup

Sidwell will prepare the cadastral database for plotting. This service includes:

- Establishment of a countywide framework identifying all map sheet boundaries and page identifiers.
- Determination of appropriate plot scales for all areas of the county.
- Creation of plot frames for each formatted map sheet.

Each plot frame will include the following information, which will be on each plot produced:

- County name
- Page number

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- Scale reference
- Disclaimer statement (Sidwell will work with the county on the appropriate wording of this statement)
- Plot date

Typically Sidwell services includes the preparation of the cadastral data for the production of 1" = 400' (large format) map plots covering the entire county. Each plot frame covers one survey section and contains an area one-mile wide east-west and one mile wide north-south.

We also typically prepare the cadastral data for the production of 1"=100' (large format) map plots for the urbanized (subdivided) areas of the county. In this case, each plot frame covers one quarter-quarter of a survey section and contains an area one-quarter-mile east-west by one-quarter-mile north-south. The actual number of 1" = 100' maps will be determined as the GIS project proceeds based on where they are required in order to adequately display the cadastral information.

Quality Assurance/Quality Control

After data is converted into a Geodatabase, it will be visually checked to ensure spatial consistency with the source data coverages. While minor changes on text appearance are an inevitable result of a significant format change, we will ensure that clarity and cartographic rules are respected.

Feature tag assignments of each feature will be confirmed against a style set that is created for this project. By rendering the cadastral data against the project style set, items that are inappropriately tagged will be identified.

We will utilize the topology engine within ArcMap to identify free-end points and geographic coincidence to the county data features.

We will confirm that all parcels have a valid parcel number associated with them, as compared to the parcel numbers included in the source coverage data.
The resulting data set will be tested against Parcel Builder to ensure that it is appropriately structured for use in this software environment.

While these steps will allow us to validate the data conversion process, they will not focus on confirming the accuracy of the cadastral data. The scope of this project is to structure and convert existing data into a Geodatabase. If the county determines that there are significant inconsistencies in the data accuracy, we are well positioned to address these issues under separate agreement.

Sidwell Software Development Experience

Sidwell brings an unsurpassed level of experience in working with and programming for the ESRI Geodatabase format, which stores graphics and attributes together in a commercially available database product. As early adopters of the geodatabase we have developed approaches for dealing with technical challenges specific to geodatabases that other companies have yet to encounter. Instead of using your project to learn how to work with geodatabases, we can bring existing expertise to the table using tested and proven techniques.

Sidwell has been developing, distributing, and extensively using cadastral map maintenance software since 1982. This provides us with an unsurpassed level of experience in working with cadastral map data in a digital environment. Sidwell

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has been developing parcel maintenance software for use with ESRI data formats for the past five years. We have been developing parcel maintenance software for use with the geodatabase for the past four years.

Sidwell will provide Marshall County with two licensed copies of Parcel Builder software. The county will receive the most current available version of the software at the time of installation. This application carries a software dependency on ESRI's ArcGIS 9.0 software at the ArcEditor or ArcInfo licensing level. This product loads as an ArcMap extension. Map data must reside within a personal or enterprise Geodatabase. Windows 2000 and XP operating systems are supported. A detailed description of Parcel Builder software is included as an appendix to this document. Additional copies of Parcel Builder - Map Plotter software have been included in the optional pricing portion of this proposal.

Parcel Builder pulls together several existing and well tested applications into one integrated product suite. Parcel Builder is being successfully used by numerous counties in Indiana and other states. Our proposal includes the purchase of one seat of Parcel Builder.

Parcel Builder is composed of three modules:

- Parcel Builder-Administrator™
    - Administrator manages the parcel number inventory for the land records management workflow. It provides tools for creating, incrementing, retiring, and reporting upon parcel numbers within the county. Parcel numbers are dragged onto the map residing within ArcMap to eliminate any data entry duplication while ensuring that the data sets are in synch. The map will automatically navigate to a selected parcel in Administrator, or a parcel selected on the map can be used to navigate Administrator to a parcel. All relevant tabular data is presented to the user to perform map maintenance, while providing real time access to related data residing within any of several supported CAMA and tax administration systems. Parcel number creation, modification, and deletion actions can be automatically sent to these CAMA and tax applications to ensure parcel number synchronization across the enterprise.
- Parcel Builder-MapEditor™
    - MapEditor adds over 30 tools and commands to ArcMap that are specifically designed to streamline cadastral map maintenance tasks. These tools include:
        - Management of cadastral specific cartographic symbols (e.g. ownership hooks).
        - Productivity tools for creating several sets of geometry unique to cadastral mapping (e.g. cul-de-sac or block subdivide).
        - Management of a multiple tag environment wherein common geometries are drawn once and carry multiple definitions (e.g. coincident lot, parcel, and subdivision boundary).
        - Drawing productivity tools (e.g. show all vertices or direction of selected elements)
        - A workflow manager with sharable defined workflows

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- Parcel Builder-MapPlotter™
  - MapPlotter provides a tool for creating consistent sets of printed "plat book" style maps. It operates outside of the ArcMap layout window, performs automated "on the fly" resymbolization of map components, and automatically populates map page specific title components. It operates independently from the current data frame, current ArcMap table of contents, and outside of the layout view. All maps that are created from Geodatabases at Sidwell are created using this tool.

Installation and Training

Sidwell and Parcel Builder software installation and configuration

Sidwell will install and configure Parcel Builder software and the new cadastral geodatabase at Marshall County. All computing hardware and pre-requisite software will be provided by the County. Sidwell technical personnel must be granted administrative user rights on the computers upon which the software is being installed, and full read/write access to all network resources that will be used to house the new GIS data.

Parcel Builder Installation & Training

Parcel Builder software will be installed at the County by Sidwell technical staff. The software will be fully configured and tested to ensure stability. The software will be tested against the Marshall County geodatabase.

This training curriculum assumes that the trainees are proficient in the use of ArcGIS map editing tools and techniques.

ArcMap and Parcel Builder™ Training

Sidwell services includes two days on-site training in the use of ArcMap for geodatabase editing. Five and one half days of on-site training will be provided by Sidwell staff on the use of Parcel Builder. This training will cover the operation of Parcel Builder - Administrator™, Parcel Builder - MapEditor™, and Parcel Builder - Map Plotter™ components. The training will focus on the use of Parcel Builder within an efficient cadastral map maintenance workflow. Sidwell will provide one instructor, instructional materials, and all software and hardware to be used by the instructor. The county will provide all computing hardware and software to be used by the trainees. This instruction will take place at the Marshall County governmental offices. All travel time, expenses, and instructor preparatory time are included in this proposal.

We also recommend administrative training on the underlying RDBMS. Our training makes the assumption that the trainee is proficient in administration of the RDBMS.

Administration

Project Management

Sidwell will appoint a project manager to this project. This project manager will be responsible for coordinating the day to day tasks related to this project, and all contact with county personnel who are acting as points of contact for this project.

Our contractual project manager will be Neal Carpenter. However, the appointed technical project manager will provide project status reports, attend routine project meetings, and coordinate project timelines in conjunction with county personnel.

Professional GIS Services for Marshall County, Indiana

ArcSDE Implementation

Sidwell will support the implementation of ArcSDE through the following consulting, training, and technical support activities. We have set aside 64 hours of on-site time to accomplish these tasks. Additional training and ArcSDE consultation is available from Sidwell according to our prevailing professional services rates at the time the service is provided.

Installation

Sidwell technical staff will install ArcSDE at the county. This task will require access to administrative logins on the Windows 2000/2003 Server security domain and the underlying relational database management system (RDBMS). This step will be performed along side the designated ArcSDE administrator at the County so that the local ArcSDE administrator becomes familiar with the process and all site specific configuration settings that are established during the installation. The Marshall County geodatabase will be installed on ArcSDE.

Security Configuration

Security configurations for ArcSDE will be jointly determined by the Sidwell technician and the county ArcSDE administrator. Users with ArcSDE administrative, editor, and viewer security rights will be established. These users can serve as models that can be used by the local ArcSDE administrator to establish additional users as the system expands. The process and recommended rules pertaining to ArcSDE security will be explained during this process.

Versioning Model

ArcSDE administration involves the establishment, management, and scheduled reconciliation of various versions of the live geodatabase. Several workflow decisions need to be made that will determine which model is most appropriate for this installation. There is no single ArcSDE versioning model that is best for every installation. Sidwell technical staff will work with the county in a consultative fashion to help establish a versioning model that is best for the county.

Administration Training

ArcSDE is an enterprise solution for managing large spatially enabled data sets. On a day to day basis, a properly designed ArcSDE implementation will generally run itself. However, as with any enterprise system, situations do occur that require administrative intervention. ArcSDE includes several administrative tools that are used to tune the system for optimal performance, manage specific users, geodatabases, and processes, and interpret user logs. Sidwell technical staff will work with the county ArcSDE administrator to familiarize them with these tools.

Raster Data Management

ArcSDE has the unique ability to manage raster data in addition to vector and tabular information, including tools designed for loading and managing large orthophoto data sets. Several key decisions need to be made during this loading process that will determine the performance of the system once the data is loaded. We'll work with the county to establish these parameters, and demonstrate some effective strategies for loading orthophotography into ArcSDE. Sidwell staff will create script files that will load orthophotography from TIF images into the ArcSDE raster database. Success of this process

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is dependent on the health of the source TIF image files. Sidwell is committed to identify any issues with existing image files. Image repair, if required, will be performed at additional cost.

End-User Training

Sidwell staff will conduct a group training session on how to use ArcSDE from an end-user standpoint. We'll explain how to connect to ArcSDE databases from ArcCatalog and ArcMap, and how to utilize different versions of the geodatabase.

Other Recommended Training

ArcSDE administration is a highly technical task. While we will make every reasonable effort to impart as much knowledge on the local ArcSDE administrator as we can, there is a practical limit to the speed at which we can provide this training. As such, we recommend that the local ArcSDE administrator attend the ESRI authorized class in ArcSDE administration for the RDBMS upon which the county is installing ArcSDE. Our training is designed to re-enforce and augment ESRI training.

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FARMS

GIS Based Farmland Assessment

The Sidwell Company will develop and implement a Farmland Assessment and Report Management System (FARMS™) for Marshall County. FARMS™ is a proprietary Sidwell software product developed to operate in conjunction with the ArcGIS based platform. It includes the ability to export data for direct loading into the County's CAMA system. Sidwell will perform countywide soils data conversion, land use classification data conversion, and perform soils computations through to assessed valuation for all agricultural tax parcels. The FARMS software will be installed on County computer(s) in the County Assessor's office for continued use and maintenance of the agricultural assessment database.

Soils and Land Use Mapping Services

The county is responsible for providing Sidwell with a copy of the most current Marshall County Soil Survey in digital form for conversion.

Using GIS projection management software, Sidwell will refine and project the digital soil maps to overlay the cadastral database files. Soil lines, soil type identifiers, spot symbols and drainage lines will exist in the final soils database provided they are a part of the original soil survey. The digital soils data will be topologically structured with appropriate attribute linkages.

Marshall County will be responsible for interpreting and delineating land use boundaries for all agricultural parcels, and providing the agricultural land use boundaries in digital form to Sidwell. The County reports that there are 8,500 agricultural parcels. The land use data will be formatted to overlay the digital orthophoto and cadastral database files.

After land use has been delineated, Sidwell will process the raw graphic data files to ensure that the digital land use data is also topologically structured with attribute linkages.

Sidwell will create non-graphic database linkages (pointers) for each agricultural tax parcel contained in the cadastral mapping database. The non-graphic database will contain the full parcel number and assessed acreage for each parcel processed (as contained in the county's tax system database). Sidwell will also create a single label (identifier) for each final soils shape in the soils mapping files and for each land use shape in the land use mapping files. These identifiers will carry a linkage from that label to a non-graphics database with soil and land use types. It will be necessary for Marshall County to provide a listing of all agricultural tax parcels showing the parcel number and assessed acreage for each parcel. This listing will be provided in digital form.

Soils Computation Services

All agricultural parcels, soils and land use polygons will be topologically structured, so that these parcels can be analyzed for farmland assessment purposes. The end result is a graphic property ownership data set with spatial relationships.

A linkage (data pointer) will be attached to the parcel number text and/or a parcel centroid for all parcels, and the parcel number will serve as the conduit through which analysis will be performed.

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Polygon overlay processing will be performed to compute acreages for each agricultural tax parcel contained in the cadastral database. The acreage computations will be further described by individual land use type for each agricultural tax parcel. Each individual land use type will be further described by individual soil type for each agricultural tax parcel. The final computations will be contained in the non-graphic database described above. Additionally, once the acreage computations are completed, the resulting database table is then input to a computation program that references soil productivity indexes. They will be compared to the productivity tables and final assessment values will be calculated and recorded.

A final report will be prepared listing each agricultural tax parcel in numerical order by permanent parcel number, summarizing acreage per land use per soil type for that parcel along with extended values based on productivity tables. Sidwell will provide this report in digital form for loading into your tax cycle system.

For computed parcel acreages that fall within the tolerances listed below when compared to the assessed acreage for that parcel (as provided by the county), the parcel and individual soil type results will be proportionally adjusted to match the assessed acreage. For those parcels where the computed acreage exceeds the tolerance limits, the computed acreage will be listed (unadjusted) and a discrepancy note for that parcel will be contained in the report.

Total Acreage Tolerance Limits *

- For parcels 1 to 5 acres in size, discrepancies over 10 percent will be reported.
- For parcels 5 to 20 acres in size, discrepancies over 8 percent will be reported.
- For parcels 20 to 50 acres in size, discrepancies over 6 percent will be reported.
- For parcels over 50 acres in size, discrepancies over 4 percent will be reported.

** Please Note: These tolerances can be modified at the county's discretion.*

Software, Installation, and Training

Our proposal includes one single-user copy of the FARMS™ (Farmland Assessment and Report Management System) polygon on polygon overlay processing module and one single-user copy of the FARMS™ database calculation and reporting module.

The first year of FARMS software support is included. Thereafter, software support is $900 per year. Sidwell will provide eight hours on-site to install, configure, and test FARMS. We will also provide eight hours of training on the use of FARMS on-site and project management service.

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GIS Web Hosting

Professional Web Site Hosting Services

Overview

Sidwell will provide all technical resources necessary to establish and maintain a Web site for Marshall County, Indiana, that will physically reside at Sidwell's primary business location in St. Charles, Illinois. The purpose of the Web site is to provide both restricted and general public access to Marshall County's Geographic Information System (GIS) data and digital aerial orthophotos. Marshall County will lease disk space and software applications for data access via the Internet from The Sidwell Company on a monthly basis.

Technical Description of Services

Storage

Sidwell will provide up to 20 gigabytes of on-line storage on their Internet file server (Web server) to Marshall County for the standard monthly lease fee specified in this proposal. This amount of on-line storage space is allocated for subsets of the County's GIS data and digital aerial orthophoto imagery at the time of this proposal and includes space for additional data in the future. Should the County exhaust the available allocated storage space at any time in the future, additional storage space may be leased as needed.

Mapping Data Content

Marshall County will provide countywide cadastral GIS data in geodatabase format to Sidwell for development of the Web site. All cadastral GIS data will be updated periodically by Marshall County via FTP directly to the Sidwell server at an interval determined by Marshall County at a frequency of no greater than once per business day. It is the sole responsibility of Marshall County to update these files. It is the responsibility of Sidwell to provide FTP access to the appropriate upload location on Sidwell's network. Any changes in the structure of the cadastral geodatabase or associated tables subsequent to initial delivery to Sidwell will result in changes to the Web site and corresponding professional service charges to the County.

Aerial Imagery

Sidwell will accept Marshall County's digital orthophotography in TIF format or in MrSID compressed format and post it directly to the Marshall County GIS Web site. While TIF images are supported by ArcIMS, performance is significantly degraded as compared to the MrSID format. The scope of this proposal does not include the retiling or resampling of imagery for optimal display on the internet. These services are available from Sidwell, and may be added to the project during post-selection negotiations.

Phase 1 – Public Access GIS Website

Sidwell will provide technical resources and work cooperatively with County staff to design and implement a GIS Website for Marshall County, Indiana that is linked to the County home page. Sidwell proposes to perform tasks including design, content recommendation, establish searches to be supported, loading of data sets, creation of a prototype site, and creation of Data Transformation scripts that will poll applicable ODBC data sources and pull the relevant data into tables residing in Microsoft SQL Server. Sidwell will also create help documentation, and perform testing and debugging services.

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Custom Public Website

A custom website will be created that pulls data directly from tables in which the data resides, and makes that data available to the website. Table and column names, website screen layout, types of queries and website behavior are all customized according to the wishes of the county. The website user experience is built around the needs and priorities of the County.

The GIS Website will be designed as an open access data portal available to the general public and all county agencies and meet the County's goals of having a GIS portal with user friendly query and reporting tools. The Website will be implemented using current ESRI software, specifically ArcIMS 9 in conjunction with ArcSDE 9 and SQL Server 2000 RDMS.

Map Display

Basic map navigation functionality will be incorporated in the site. Features displayed will be automatically turned on and off depending upon the scale at which a map is viewed. Web site end-users will be able to:

- Pan
- Zoom in
- Zoom out
- Display the full map extent
- Measure
- Display Overview Maps
- Control/Display of Specific Map Features

The GIS portal will be designed with the user in mind. We will provide advanced functionality with an intuitive user interface that is simple to operate. Sidwell is currently hosting several county websites; these designs incorporate simplified user tools to navigate through the map, as well as to search and query map information.

ArcMap Service

We recommend using an ArcIMS ArcMap service for the GIS Portal. With this proven technology, a map document can be created within the ArcMap component of ArcGIS 9 and can include all of the required data layers. The resulting mxd file can be used directly by ArcIMS 9 to create a map service for display on the GIS Portal. This mxd file essentially replaces the axl file used by the ArcIMS Image service.

There are a number of significant advantages to using an ArcMap service, both in terms of initial design and long term maintenance. The ArcMap service allows the map to be designed within ArcGIS 9, allowing the use of familiar tools to specify components such as layer symbology, scale visibility, display name, and table of contents order among other items. Style sets, such as those included with the cadastral data provided by Sidwell, can also be used to simplify layer symbology, and they can be modified to efficiently change the map display at any time.

Changes to the ArcMap service, such as adding or removing a layer, can be made through the standard ArcGIS 9 interface. Use of the ArcIMS ArcMap service will therefore simplify and improve the ability of the Marshall County staff to modify and maintain the map, by leveraging their knowledge and familiarity with ArcGIS tools. The ArcIMS ArcMap service also has the capability to show annotation feature classes as layers, a capability not currently available with an image service. This means that parcel dimensions, parcel numbers, and lot numbers, which are maintained in an annotation feature class within the parcels Geodatabase, could be easily included in the ArcMap service.

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Project Pricing

Geodatabase Conversion	*$36,845.56*
• Data Model Consultation and Design	
• Data Conversion and Clean Up	
• Import Parcel Inventory	
• Grid Indexes for Plotting	
• Two Seats Parcel Builder Suite	
• Two Seats ProVal Integration Plug-in	
• Installation, Configuration, Testing	
• Training	
ArcSDE Implementation	*$ 9,400.00*
• Setup and Geodatabase Loading	
• Raster Data Loading Assistance	
• User Security Configuration	
• Consulting, Implementation, Training	
FARMS	*$10,732.64*
• Convert Soils and Ag Land Use	
• Farmland Overlay and Calculation	
• Install, Configure, Test	
• One Seat FARMS software	
• Training	
Custom Public Access GIS Website	*$35,675.28*
• Establish Design, Content, and Searches	
• Create DTS Scripts	
• Create Prototype	
• Help Documentation	
• Test and Debug	
• 24 Months Web Hosting Fee	
E-Commerce/Employee GIS Website	*$18,880.00*
• Up to 5 Additional Search Criteria	
• Up to 10 Additional Columns of Data	
• Up to 10 Additional Map Layers	
• Credit Card Processing and Login Control	
• Expand Help Documentation	
• E-Commerce Management	
• 24 Months of Upgraded GIS Website Hosting	
Selected Optional Products & Services	*$11,849.00*
• 6 additional licenses of Parcel Builder - Map Plotter	$ 3,342.00
• 1 additional license of Parcel Builder - Administrator	$ 557.00
• 1 additional seat of Parcel Builder – ProVAL Plug-in	$ 950.00
• Reformat Imagery into MrSID format	$ 7,000.00

Project Total **$123,382.48**

*** *Purchase of Sidwell software includes the first year maintenance fees.*

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After year 1, based on current rates, the estimated software maintenance fees should be:

• *2 licenses of Parcel Builder Suite*	*$2,990.00*
• *1 license of Parcel Builder – Administrator*	*$ 334.20*
• *6 licenses of Parcel Builder – Map Plotter*	*$2,005.20*
• *3 seats of Parcel Builder – ProVAL Plug-in*	*$1,000.00*
• *1 license of FARMS*	*$ 900.00*
Total Projected Annual Software Maintenance	***$7229.40***

Project Schedule

Sidwell's Project Manager will work cooperatively with the Marshall County Project Manager to establish the order in which the project tasks will be accomplished. Geodatabase conversion will likely need to be accomplished first followed by other project tasks. We expect to implement the Custom Public Access GIS Website in about 5 months after contract signing and receipt of all applicable datasets from the county. Scheduling of other project tasks will follow based on planning and agreement between Marshall County and Sidwell.

Project Invoicing

The Sidwell Company has agreed to extend payment terms to Marshall County to include budget years 2005 and 2006 plus January 2007. Invoicing for this project will occur periodically as project work progresses. It is anticipated that Marshall County will have $11,000 available in budget year 2005 and potentially an additional $40,000 in budget year 2005. The remainder of project costs will be paid in budget year 2006 with the exception of $10,800 which will be paid in January 2007. Invoice payments are due net 30 days; however, the extent to which Sidwell's invoicing exceeds the aforementioned funding, payments will be due as funds become available.

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Professional GIS Services for Marshall County, Indiana

This contract, as heretofore described, made and entered into on this 17th day of October, 2005.

THE SIDWELL COMPANY

By _____
Neal Carpenter, President/CEO

NEAL CARPENTER personally appeared and signed before me as an officer and agent of said corporation this 28th day of July, 2005.

_____
Notary

OFFICIAL SEAL
SUSAN L. ROHLWING
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 4/7/08

MARSHALL COUNTY, INDIANA

By _____
John Zentz, Commissioner

By _____
Kevin Overmyer, Commissioner

By _____
Tom Chamberlin, Commissioner
10/17/05

Attest _____
Jan Quivey, Auditor

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Use of an ArcMap Service produces images that are rendered and associated with standard HTML documents for display in a client browser. The difference is limited to how the images are rendered on the server prior to being dispatched to the Internet.

Sidwell is currently hosting websites for these jurisdictions that use ArcMap services:

- Boone County, Illinois
- Bremer County, Iowa
- Carroll County, Iowa
- Clay County, Iowa
- Madison County, Iowa
- Sioux City, Iowa
- Washington County, Iowa

These websites include several annotation feature layers. No additional software or license purchases are required, as this capability is incorporated in the standard ArcIMS 9 package.

Data Formats and Warehousing

All data will be warehoused at Sidwell. All data will reside in a Geodatabase. All related attribute data to be included in the GIS Portal will reside in ODBC compliant tables that are accessible from the database server.

Query and Reporting Tools

Sidwell will work with Marshall County staff to establish searches to be supported in Phase 1. The resulting query tool will allow parcels to be selected by map click and include a search form to allow the user to locate parcel information by parcel ID number, owner name, or property address.

For the Marshall County Websites, Sidwell will be responsible for writing the Data Transformation scripts to pull selected data from the County's ODBC compliant data files into tables residing in Microsoft SQL Server. These tables will be normalized and pertinent columns of data from each table will be pulled together into one or more tables that will be referenced by the website. The resulting Data Transformation Service (DTS) package will be scheduled to run at an interval agreed to by Sidwell and Marshall County so that the data on the web is current and reliable. These tables will be uploaded via FTP access directly to the Sidwell server. We recommend this approach over directly polling all relevant tables in real time in the interest of increasing the speed of the web application.

An ancillary benefit of this approach is that other users across the Marshall County information services enterprise can be granted access to these tables for direct inquiry from ad-hoc reporting systems, on-line analysis from ArcMap users, or direct access from other applications. This approach ensures that the data being used by different applications is consistent and controlled.

Reports

The query tool that we incorporate, whether basic or enhanced, will also allow an end-user to request a report for any selected parcel. The report will be an HTML document containing the map, aerial photograph, and associated parcel attribute information. The HTML report can be saved to disk by the end-user or printed using the basic print functions of their browser. This capability could

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later be expanded to allow the user to select from a predefined set of reporting templates.

End-User On-line Help System
We will develop an on-line help system accessible on the GIS Portal. A link will be provided on the website that will allow users to obtain instructions for applying all the website tools, including the query and reporting tools. Examples of our current on-line help capabilities can be directly accessed from any of the websites that we currently host.

Phase 2 – E-Commerce/Employee GIS Web Site
When the design and prototyping in Phase 1 is completed, Sidwell will embark on the development of Phase 2. We will work cooperatively with Marshall County staff to define additional advanced search capabilities. Sidwell will expand the existing Data Transformation scripts to incorporate the criteria to be included in advanced queries. Sidwell will create a Phase 2 prototype website and work with Marshall County staff to identify modifications and changes. The Phase 2 website will be tested, help system documentation will be expanded, a County-only portal will be created, and County-only searches and response screens will be created.

E-Commerce / Employee Access
Access to the advanced website will be provided in two ways. First, the County will be issued a set of pre-approved logins and passwords that can be disseminated and tracked by Marshall County. It will be the responsibility of the County to ensure that these logins will not be provided to entities outside of Marshall County employees. A designated person at Marshall County will have access to a private Sidwell webpage that will allow them to create additional logins or disable existing logins as needed.

Public access to the advanced website will be available for on-line purchase of a monthly subscription. When a user requests access to the advanced website, they will be prompted for a credit card number and related information. Upon successful processing of the credit card, the user will be emailed a username and password that will grant them access to the advanced website. The credit card purchase will represent a monthly recurring charge that will require an action by the user to stop.

The Sidwell Customer Service department will handle administration of the subscription service, addressing such issues as expired credit cards, lost logins, etc.

The cost of the subscription service will be determined by Marshall County, with advice provided by Sidwell on what we have found the market will bear in similar situations. The entire subscription fee, less any direct costs incurred by Sidwell (banking fees, etc.), will be returned to Marshall County on an annual basis. However, if collections exceed $250.00 in any given quarter, Sidwell shall remit fees at the end of that quarter.

Advanced Search Capability
We have included the development of up to five additional searches that will be used to isolate properties within Marshall County. Our search engines allow properties to be isolated based on any combination of selected advanced search criteria. For instance, on a search example from Sioux City, Iowa, a user on

the Sioux City ArcIMS Website (www.SiouxCityAssessor.com) might request all residential properties built since 1990 with an assessed valuation of between $400,000 and $600,000 which were built since 1990. In this search example, six candidate properties would be found and listed for user selection and viewing. At this point, the user may elect to view the attribute data, map, or both.

We are proposing to provide this same functionality for Marshall County. The only stipulation is that the attribute data which will be used to perform the searches must be available as an ODBC data source (preferably in MSSQL Server tables), and must be keyed to parcel number.

Quality Assurance Measures

Quality control is a key component of every project that The Sidwell Company undertakes. We incorporate quality control in each phase of project development. For Website development, quality control includes both the technical aspect of providing accurate maps and data, as well as the requirement to provide clear and simple instructions to site visitors. The specific steps for this project are as follows:

1. While the site is under development at Sidwell, we will make use of the ArcIMS logging capabilities to review response time statistics to ensure that the Website works correctly. We have developed considerable experience in monitoring ArcIMS from our Web hosting program, and we are able to compare the Website response time with statistics obtained from similar sites that we are hosting.
2. As part of our hosting program we have a testing program in place that reviews our Websites through a variety of end user scenarios. Our sites are tested against T-1 and cable modem connections as well as dial-up connections through AOL. We will apply this testing program to verify site performance. Our help desk staff has considerable experience with various end user browser software configurations.
3. Sidwell will assign a technical staff member to test the Website at development milestones.
4. We will utilize a non-technical staff to test the usability of the Website at development milestones. The staff member will test the Website features and report on the ease of use, effectiveness of directions, and ability to obtain requested information.
5. Our in-house prototype approach will also allow the county to view the Website as it develops to be certain that it meets their requirements. This will allow us to assure the accuracy of the Web content, and the ability of users to access the site. Sidwell uses a structured approach to testing and debugging software prior to delivery to the client.

Web Site Hosting Services

Site Monitoring

Sidwell will log the referring IP address, time, and date of each inquiry on the Web site. Because Phase 1 of the County's GIS Web site is a public site, log-ins and passwords will not be required. Consequently, outside of the above information, specific end-users of the site will not be logged.

Sidwell utilizes automated site monitoring software to minimize downtime. This software queries the Web server every five minutes 24 hours a day. In the event the system fails, text messages are automatically sent to the cell phones of selected technical staff.

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Site Availability

Sidwell and Marshall County both depend upon outside communications services and Web servers for internet access, so no blanket guarantees can be made on the availability of service and public access to the County's GIS Web site. However, it is understood that both parties expect access to the Web site to be available 24 hours a day, 7 days a week (24/7), less downtime for routine maintenance and backup. Sidwell will make every reasonable effort to ensure this expectation is met.

Technical Support

Sidwell will provide telephone and E-mail support to Marshall County staff during normal working hours (8:00 am to 4:30 pm CST/CDT) Monday through Friday, excluding holidays. This support will be provided to help assess and correct technical problems with access to the County's data through their GIS Web site as part of the standard hosting fee. Support for end-users of the Web site is the responsibility of Marshall County. Any Sidwell support required beyond that identified above and any on-site support required in Marshall County will be invoiced separately as Professional Services.

Security and Backup

Sidwell's Web servers are protected by several layers of security including a firewall, Microsoft IIS security, Windows 2003 domain security, and Secure IIS. The prototype Website will be password protected. Sidwell employs a structured backup system for all dynamic data residing on our servers. All changed files are backed up daily. All dynamic files are fully backed up weekly. Our instances on Microsoft SQL Server undergo warm backups on a daily basis. Static data files, such as orthophotography, are backed up onto tape each time they are modified in any way. Only designated Sidwell employees will be permitted access to the Web site beyond the firewall for maintenance, modifications, enhancements, and other system management functions.

Our production servers utilize RAID5 striping to ensure that we are protected from failure of a specific disk within our production array.

End-User Requirements

The site will be functional using current Microsoft Internet Explorer and Netscape browsers, but will be optimized for use with Microsoft Internet Explorer version six or higher. The site will be designed to operate best when the client is running a minimum screen resolution of 1024 x 768.

Advertising Restrictions

Advertising of any kind is prohibited on the County's Web site, unless requested and authorized by Marshall County. Exclusive of this prohibition, Sidwell is hereby granted permission by Marshall County to include an unobtrusive "Web site Hosted By: The Sidwell Company" notice or banner on all Web pages.

Legal Notices and Disclaimers

An End-User License Agreement (EULA), acknowledging release of Marshall County and Sidwell from all liability for use of the data accessed at the Web site, will be presented for user acceptance prior to entering the Web site. Marshall County has prepared this legal notice and will provide the EULA to Sidwell for posting on the Web site.

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Ownership of Applications and Data

It is understood that all application programs, configuration files, program source code, and active server pages created for this project are the property of The Sidwell Company. Sidwell maintains the right to restrict access to any end-user to protect the integrity of Sidwell's network and the County's data and/or in the event of detected abuse of privileges by any end-user.

It is understood that all GIS and digital orthophoto data is the exclusive property of Marshall County and that Sidwell is prohibited from using said data for any other purpose than to fulfill the terms of this Agreement without the expressed written consent of Marshall County. Upon cancellation of this Agreement, Sidwell will promptly remove all County owned property from their computer systems and return it to Marshall County.

Compiled, executable copies of Sidwell's Web applications will be available for purchase at the time of cancellation at Sidwell's established price at the time.

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